

What Is Claimed Is:

1. A valve actuator for operating a gas exchange valve of an internal combustion engine, having a sleeve-shaped positioning piston (2) which is connected to a valve stem (5), having at least two shell-shaped wedge pieces (6, 7), which enclose a stem end (5a) of the valve stem (5), and whose radially outer peripheral surfaces have a conical segment (10) which tapers off with increasing distance from the gas exchange valve (1) and which is at least partially surrounded by a conical clamping sleeve (13) having a mating conical inner surface (12) and is connected to the positioning piston (2), wherein the wedge pieces (6, 7) are axially form-fittingly and rotatably connected to a threaded bolt (41), the threaded bolt (41) having at least one threaded segment (31) via which the wedge pieces (6, 7) and the conical clamping sleeve (13) are axially attachable to one another.
2. The valve actuator as recited in Claim 1, wherein the wedge pieces (6, 7) extend beyond the stem end (5a) as an axial extension of the valve stem (5) and there, partially encompass the threaded bolt (41) axially in a form-fitting manner.
3. The valve actuator as recited in Claim 1 or 2, wherein the conical clamping sleeve (13) is formed by the positioning piston (2) and the threaded segment (31) at least partially engages with a mating thread (39) on the positioning piston (2).
4. The valve actuator as recited in Claim 3, wherein the threaded segment (31) extends in the axial direction on an outer periphery of the threaded bolt (41).
5. The valve actuator as recited in Claim 4, wherein at least one radial projection (42), which radially engages with at least one radial depression (43) on an inner surface of the wedge pieces (6, 7), is formed on the outer periphery of the threaded bolt (41).

6. The valve actuator as recited in Claim 5,
wherein the at least one radial depression (43) and the at least one radial projection (42) have an annular shape.
7. The valve actuator as recited in Claim 6,
wherein the at least one depression (43) on the threaded bolt (41) is situated in the area of its end (41a) facing the valve stem (5), and the threaded segment (31) is behind the stem end (5a), viewed in the axial direction from the gas exchange valve (1).
8. The valve actuator as recited in Claim 7,
wherein a total of three peripheral depressions (43) are situated on the threaded bolt (41) which each engage with three mating projections (42) on the wedge pieces (6, 7).